AMENDMENTS TO THE CLAIMS

Please cancel claims 1-17, and add new claims 18-36 as follows. This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1-17. (cancelled)

18. (new) An adjusting method for adjusting an optical system that has a multilayer mirror that includes a multilayer film using an EUV light, said adjusting method comprising:

a first step for measuring a wave front aberration of the optical system using the EUV light;

a second step for measuring a wave front aberration of the optical system using a non-exposure light having a wavelength different from that of the EUV light;

a third step for removing a part of the multilayer film based on a measurement result in said first step;

a fourth step for measuring a wave front aberration of the optical system that includes the multilayer mirror from which the part of the multilayer film is removed, using the non-exposure light; and

a fifth step for adjusting a position of the multilayer mirror based on a measurement result in said fourth step,

wherein said fourth step measures the wave front aberration of the optical system except an area in which the multilayer film is removed among the multilayer mirror.

19. (new) An adjusting method according to claim 18, wherein the non-exposure light is one of a ultraviolet light, visible light and infrared light.

20. (new) An adjusting method according to claim 18, further comprising a sixth step for incorporating into the optical system a mask for shielding a light from entering the area in which the multilayer film is removed in the multilayer mirror.

21. (new) An adjusting method according to claim 18, further comprising a sixth step for incorporating into the optical system a mask for shielding a light reflected from the area in which the multilayer film is removed in the multilayer mirror.

22. (new) An adjusting method according to claim 18, wherein said fourth step includes a data removal step for deleting data corresponding to a light through the area in which the multilayer film is removed in the multilayer mirror among measured date of the wave front aberration of the optical system, wherein said fifth step adjusts the position of the multilayer mirror using the data in the data removing step.

23. (new) An optical system for using an EUV light, said optical system comprising a multilayer mirror having a multilayer film, wherein a part of the multilayer film is removed, and the optical system is adjusted by the adjusting method according to claim 18.

24. (new) An exposure apparatus for exposing an object, wherein said exposure apparatus comprising an optical system according to claim 23 for introducing an EUV light from a light source to the object.

25. (new) A device fabrication method comprising the steps of:

exposing an object using an exposure apparatus according to claim 24; and

performing a development process for the object exposed.

26. (new) An adjusting method for adjusting an optical system that has a multilayer mirror that includes a multilayer film using an EUV light, said adjusting method comprising:

a first step for measuring a wave front aberration of the optical system using a non-exposure light having a wavelength different from that of the EUV light;

a second step for removing a part of the multilayer film in the multilayer mirror based on a measurement result in said first step;

a third step for measuring a wave front aberration of the optical system that includes the multilayer mirror from which the part of the multilayer film is removed, using the non-exposure light; and

a fourth step for adjusting a position of the multilayer mirror based on a measurement result in said third step,

wherein said third step measures the wave front aberration of the optical system except an area in which the multilayer film is removed among the multilayer mirror.

27. (new) An optical system for using an EUV light, said optical system comprising a multilayer mirror having a multilayer film, wherein a part of the multilayer film is removed, and the optical system is adjusted by the adjusting method according to claim 26.

28. (new) An exposure apparatus for exposing an object, wherein said exposure apparatus comprising an optical system according to claim 27 for introducing an EUV light from a light source to the object.

29. (new) A device fabrication method comprising the steps of:

exposing an object using an exposure apparatus according to claim 28; and

performing a development process for the object exposed.

30. (new) An adjusting method for adjusting an optical system that has a multilayer mirror that includes a multilayer film using an EUV light, said adjusting method comprising:

a first step for measuring a wave front aberration of the optical system;

a second step for removing a part of the multilayer film in the multilayer mirror based on a measurement result in said first step;

a third step for measuring a wave front aberration of the optical system that includes the multilayer mirror from which the part of the multilayer film is removed, except an area in which the multilayer film is removed among the multilayer mirror; and

a fourth step for adjusting the optical system based on a measurement result of wave front aberration of the optical system in said third step.

31. (new) An adjusting method according to claim 30, further comprising a removal condition determining step for determining a removal condition to remove the part of the multilayer film in the multilayer mirror so that wave front aberration measured in said first step may reduce.

32. (new) An adjusting method according to claim 31, wherein said removal condition defines a removal area of the part of the multilayer film in the multilayer mirror.

33. (new) An adjusting method according to claim 31, wherein said removal condition defines a removal amount of the part of the multilayer film in the multilayer mirror.

34. (new) An optical system for using an EUV light, said optical system comprising a multilayer mirror having a multilayer film, wherein a part of the multilayer film is removed, and the optical system is adjusted by the adjusting method according to claim 30.

35. (new) An exposure apparatus for exposing an object, wherein said exposure apparatus comprising an optical system according to claim 34 for introducing an EUV light from a light source to the object.

36. (new) A device fabrication method comprising the steps of:

exposing an object using an exposure apparatus according to claim 35; and

performing a development process for the object exposed.